Replacement - Amendments to the Claims

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for the detection and analysis of patterns comprises the steps of:

    a) Input an image containing object labels;

    b) Perform relational feature development using the input image to create at least one pattern map output wherein the pattern map consists of C x C object class relationships across an image set, each row of the pattern map is a distribution of object classes relations to C other classes including itself;

    c) Perform relational feature analysis using the at least one pattern map to create a relational feature analysis result output.

Claim 2 (currently amended): The pattern detection and analysis method of claim 1 further performing comprises a recipe for automation control of the relational feature development step and the relational feature analysis step using a recipe.

Claim 3 (previously presented): The pattern detection and analysis method of claim 1 further includes determination of a genetic anomaly.

Claim 4 (currently amended): The pattern detection and analysis method of claim 1 wherein the relational feature analysis method selects from the set consisting of:

    a) PatternMap Pattern map viewing,

    b) PatternMap Pattern map operation

Claim 5 (currently amended): The pattern detection and analysis method of claim 1 wherein the relational feature development method further comprises the steps of:

a) Perform core measurement table development using the input image to create at least one core measurement table output;

b) Perform feature table production using the at least one core measurement table to create at least one feature table output;

c) Perform ~~PatternMap~~ pattern map creation using the at least one feature table to create a ~~PatternMap~~ pattern map output.

Claim 6 (currently amended): The relational feature development method of claim 5 further comprises a ~~PatternMap~~ pattern map integration and update step to create an updated ~~PatternMap~~ pattern map.

Claim 7 (previously presented): The relational feature development method of claim 5 wherein the core measurement table selects from the set consisting of:

a) Conditional table,

b) Relational table.

Claim 8 (previously presented): The core measurement table of claim 7 wherein the conditional table includes measurements from the set consisting of:

a) Boundary distance,

b) Radial distance.

Claim 9 (previously presented): The core measurement table of claim 7 wherein the relational table includes measurements from the set consisting of:

a) Object distance,

b) Radial difference,

c) Δ boundary difference,

d) Pixel distance.

Claim 10 (previously presented): The conditional table measurement of claim 8 wherein the boundary distance measurement further comprises the steps of:

a) Perform structure object mask production using the input image to create a structure object mask output;

b) Perform inner distance transform using the structure object mask to create an inner distance transform image output;

c) Find individual object centroids using the input image to create individual object centroids output;

d) Find object boundary distance using the individual object centroid and the inner distance transform image to create an object boundary distance output.

Claim 11 (previously presented): The relational table measurement of claim 9 wherein the object distance measurement further comprises the steps of:

a) Perform adaptive zone of influence using the input image to create a ZOI boundary output;

b) Populate the object distance table using the ZOI boundary output to create an object distance table output.

Claim 12 (previously presented): The relational table measurement of claim 9 wherein the pixel distance measurement includes measurements from the set consisting of:

a) Pixel distance average,

b) Pixel distance edge.

Claim 13 (previously presented): The relational feature development method of claim 5 wherein the feature table production further consists of the following steps:

a) Select one input relational table;

b) Select a feature rule;

c) Choose a data treatment;

d) Select a class member integration rule.

Claim 14 (previously presented): The feature table production of claim 13 wherein the feature rule selects from the set consisting of:

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    a) Element based rules,

    b) Row based rules.

Claim 15 (previously presented): The feature rule of claim 14 wherein the element based rules selects from the set consisting of:

    a) Conditional CM table rules,

    b) Relational CM table rules.

Claim 16 (currently amended): The relational feature development method of claim ~~5~~6 wherein the ~~PatternMap~~ pattern map integration and update step selects from the set consisting of:

    a) ~~PatternMap~~Pattern map integration rule,

    b) ~~PatternMap~~Pattern map update rule.

Claim 17 (currently amended): The relational feature analysis method of claim 4 wherein the ~~PatternMap~~ pattern map Viewing selects from the set consisting of:

    a) Color coded map,

    b) Bar chart,

    c) Histogram,

    d) Image montage.

Claim 18 (currently amended): The pattern detection and analysis method of claim 2 wherein the recipe for automation control is selected from the set consisting of:

    a) Image loading recipe,

    b) Feature table production recipe,

    c) ~~PatternMap~~ Pattern map creation recipe,

    d) ~~PatternMap~~ Pattern map update and integration recipe,

    e) ~~PatternMap~~ Pattern map operations recipe,

    f) Output recipe.

Claim 19 (withdrawn): A relational feature development method comprises the steps of:

a) Input an image containing object labels;

b) Perform core measurement table development using the input image to create at least one core measurement table output;

c) Perform feature table production using the at least one core measurement table to create at least one feature table output;

d) Perform PatternMap creation using the at least one feature table to create a PatternMap output.

Claim 20 (withdrawn): The relational feature development method of claim 19 further comprises a PatternMap integration and update step to create an updated PatternMap.

Claim 21 (withdrawn): The relational feature development method of claim 19 wherein the core measurement table selects from the set consisting of:

a) Conditional table,

b) Relational table.

Claim 22 (withdrawn): The core measurement table of claim 21 wherein the conditional table includes measurements from the set consisting of:

a) Boundary distance,

b) Radial distance.

Claim 23 (withdrawn): The core measurement table of claim 21 wherein the relational table includes measurements from the set consisting of:

a) Object distance,

b) Radial difference,

c) Δboundary difference,

d) Pixel distance.

Claim 24 (withdrawn): The conditional table measurement of claim 22 wherein the boundary distance measurement further comprises the steps of:

    a) Perform structure object mask production using the input image to create structure object mask output;

    b) Perform inner distance transform using the structure object mask to create inner distance transform image output;

    c) Find individual object centroid using the input image to create individual object centroid output;

    d) Find object boundary distance using the individual object centroid and the inner distance transform image to create object boundary distance output.

Claim 25 (withdrawn): The relational table measurement of claim 23 wherein the object distance measurement further comprises the steps of:

    a) Perform adaptive zone of influence using the input image to create ZOI boundary output;

    b) Populate the object distance table using the ZOI boundary output to create the object distance table output.

Claim 26 (withdrawn): The relational table measurement of claim 23 wherein the pixel distance measurement includes measurements from the set consisting of:

    a) Pixel distance average,

    b) Pixel distance edge.

Claim 27 (withdrawn): The relational feature development method of claim 19 wherein feature table production further includes the following steps:

    a) Select one input relational table;

    b) Select a feature rule;

    c) Choose a data treatment;

    d) Select a class member integration rule.

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Claim 28 (withdrawn): The feature table production of claim 27 wherein the feature rule is selected from the set consisting of:

    a) Element based rules,

    b) Row based rules.

Claim 29 (withdrawn): The feature rule of claim28 wherein the element based rules are selected from the set consisting of:

    a) Conditional CM table rules,

    b) Relational CM table rules.

Claim 30 (withdrawn): The relational feature development method of claim 19 wherein the PatternMap integration and update step are selected from the set consisting of:

    a) PatternMap integration rule,

    b) PatternMap update rule.

Claim 31 (withdrawn): A boundary distance measurement comprises the steps of:

    a) Input an image containing object labels;

    b) Perform structure object mask production using the input image to create structure object mask output;

    c) Perform inner distance transform using the structure object mask to create inner distance transform image output;

    d) Find individual object centroid using the input image to create individual object centroid output;

    e) Find object boundary distance using the individual object centroid and the inner distance transform image to create object boundary distance output.